THE FRIENDS OF ALGONQUIN PARK

Bat Lake Trail

Basic Algonquin Ecology

Bat Lake Trail

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Printed on recycled paper

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The Bat Lake Trail is a 5 km loop which takes you through a variety of Algonquin forest types and includes a lookout, a bog and a lake.

The numbered sections of this guide correspond to numbered posts along the trail and offer some insight into the inner workings of Algonquin Park ecosystems.

Post 1 Life Is Only Skin Deep

You have now walked into an Algonquin forest and, especially if you are new to such places, it may strike you as endless and overpowering.

It really does cover a huge area, but in another important way, the forest is almost insignificant. After all, it reaches from only a metre or two down in the soil below your feet and up no farther than to the treetops. This distance hardly ever exceeds 30 metres (100 feet) and as such represents a mere 23 millionths of one percent of the earth's diameter. The forest, and all the life it contains, are therefore confined to an almost unimaginably wispy film on the surface of our planet. Seen in this light, the forest should be thought of as highly delicate. Among other things, we should expect it to be extremely sensitive to any variations in the structure and the chemistry of the rocks below and the air above.

Farther along the trail we shall indeed see many interesting examples of how very slight differences in the soil and the atmosphere can have far-reaching consequences for the forest. We shall also see some of the ways they interact with each other to form an intricate, living ecosystem.

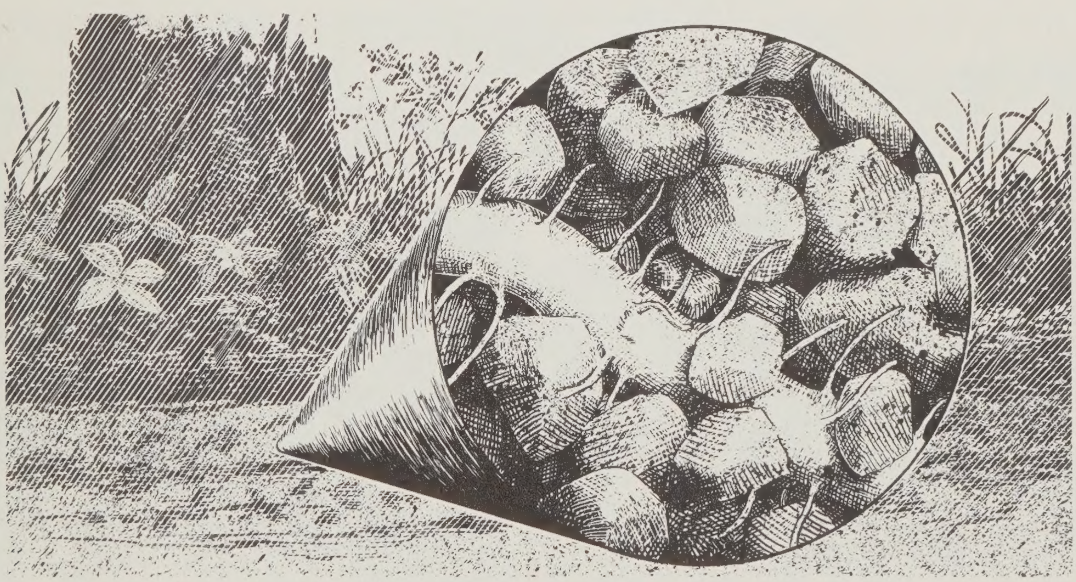
Post 2 The Sands of Pine

We said at the last post that apparently tiny differences in the history and structure of soils can have big consequences for the forests that grow on them. Here is a good example of what we meant.

As a matter of fact, right from the beginning of the trail you have been walking through a rather uniform forest of White Pine, Balsam Fir, and White Spruce. Come to think of it, you haven't seen a single maple tree in all this distance. That's quite unusual in a Park where most of the ground, at least on Algonquin's west side, is covered by enormous stands of Sugar Maple. So why has the trail been dominated so far by a mostly coniferous forest?

At this post you can see part of the answer. The soil here is based on sand — sand that was left 10,000 years ago by a short-lived but huge river carrying torrents of water away from the last glacier as it melted away to the north. The ice of the glacier had contained enormous quantities of boulders, gravel, sand and silt and all this material had to go somewhere when it was finally released. The big boulders didn't go very far of course and the fine silt was easily carried far away downstream to the Atlantic Ocean. The intermediate-sized particles, (the ones we call sand) however, were carried along until the river widened out in certain places and the current slowed down and allowed the sand to settle out on the bottom. This is what happened here and how the river created the sandy "outwash plain" now occupied by the Mew and Two Rivers Campgrounds, the old airfield across the highway, and this part of the trail.

We humans may not pay much attention when the soil is composed of sand rather than some other kind of "dirt", but the trees certainly do. The sand here is responsible for the strict exclusion of maple trees and the occurrence instead of the pines and other conifers now surrounding you. What exactly is it about the sand that causes such startling results? Imagine yourself as a tree for a minute and think what it would be like to have your roots down among fairly big sand grains. Because the spaces between the grains are large, water tends to drain quickly downwards, and, in prolonged dry periods, the surface layer is often bone dry. If you were a big tree with long roots you might be okay, but as a small debutante seedling you would have to be able to withstand extreme surface drought.



Sandy soil dries out and is unsuitable for hardwoods because rainwater easily drains through large spaces between the uniformly-sized sand grains.

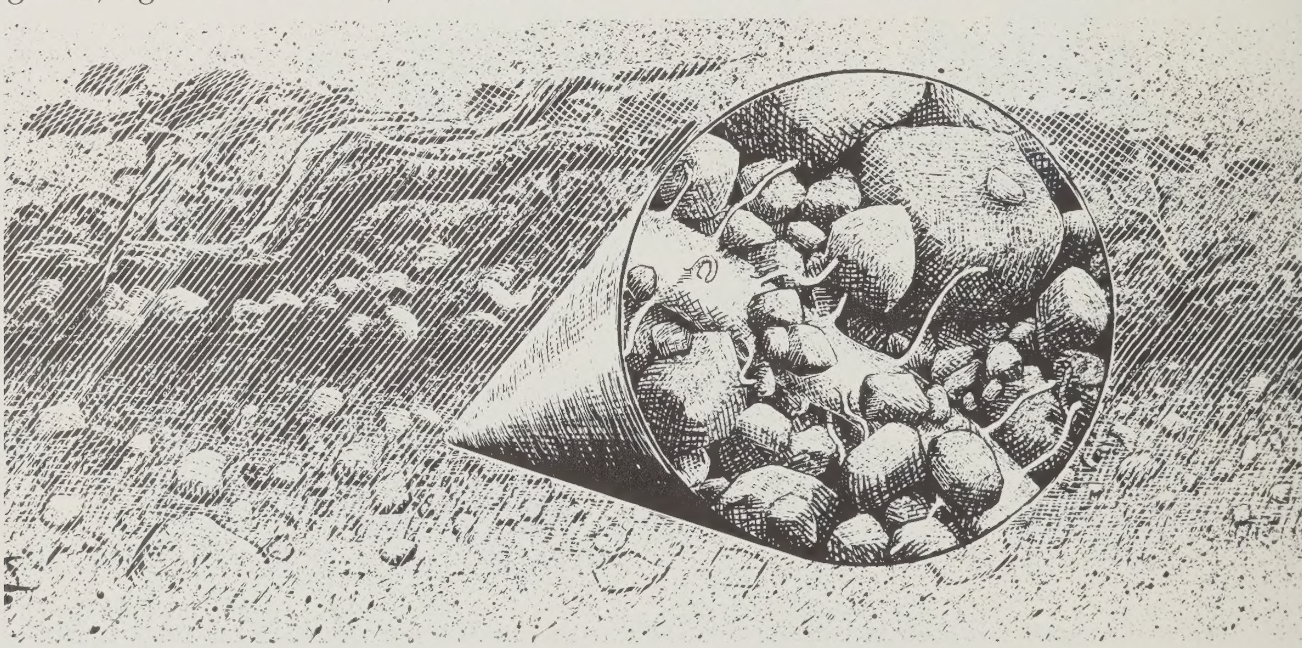
Maple seedlings simply can't survive such conditions and that is why they never get established on sand plains like this one. This leaves the site open for the

pines and the other kinds of trees we see here — trees that are better able to tolerate the physical conditions bequeathed to them by the melting glacier long ago.

Post 3 Glacier, Glacier, How Does Your Garden Grow?

We hardly need to point out that something major has happened in the last hundred metres of trail. From the coniferous forest along the trail's first kilometre, we have suddenly come into a completely different forest of broad-leaved trees dominated by Sugar Maple. The climate certainly couldn't have changed in so short a distance, so what could account for the striking difference?

Once again the answer is to be found in the soil and its history. A close examination will show you that the soil here has a tremendous range of particle sizes — quite different from the uniformly-sized sand grains we saw back at Post 2. Instead we now have everything from rocks and pebbles, through sand grains, right down to fine, almost microscopic particles called silt. The reason for this great range is that, up on these slopes, this soil has never been significantly reworked by water — it was just dumped here when the glacier retreated and fast-flowing water has never had a chance to carry off the smaller soil particles and deposit them elsewhere.



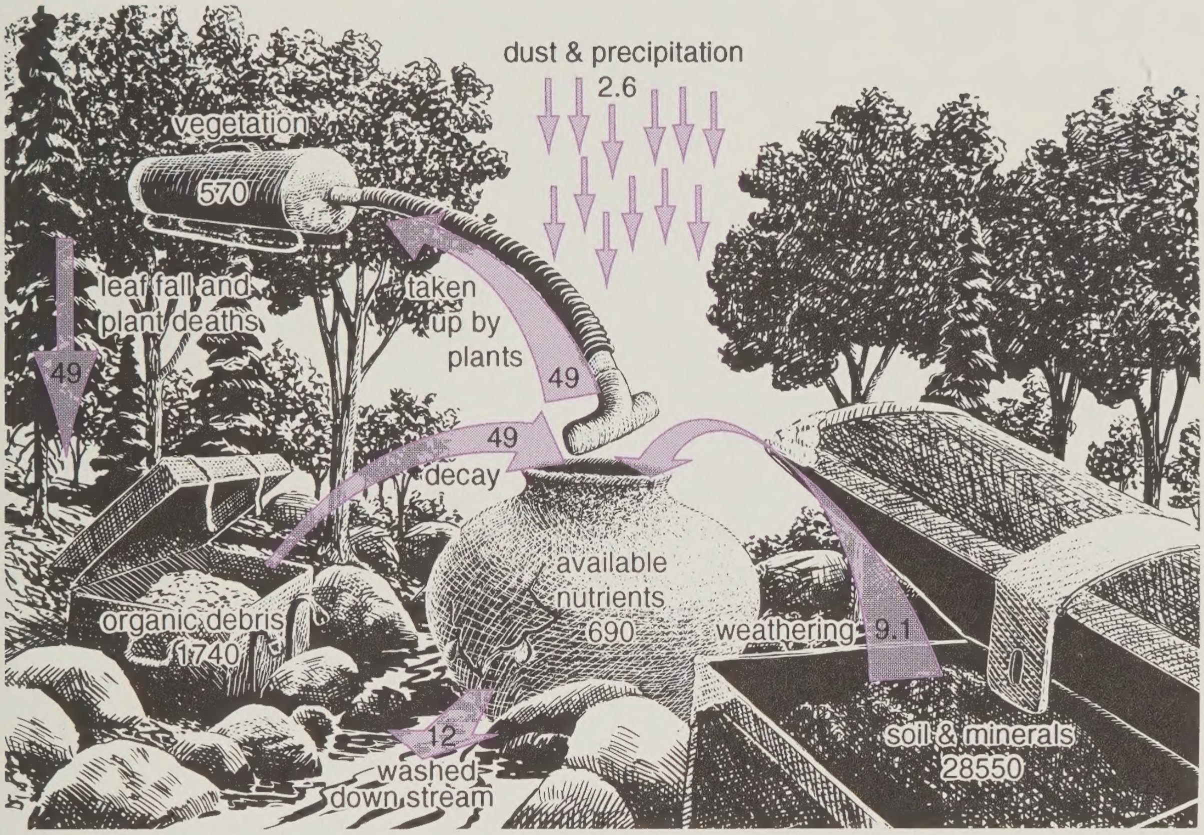
"Till", the soil smeared into place by glacier, stays moist (suitable for hardwoods) because it has a wide range of particle sizes and only tiny spaces through which water can drain.

This may not sound like an important difference, but try once again to imagine yourself as a tree with your roots down in this sort of "glacial till" (as such soils are called). This time, the spaces between the medium-sized sand grains are not open for the unimpeded downward escape of water, but instead are partly filled with tiny silt particles. Through surface tension, water tends to "stick" firmly onto and between these innumerable tiny particles and the result is a soil that retains moisture far better than outwash sands.

This difference alone might account for the complete failure of maple seedlings in sand as we saw at Post 2, and their triumphant success as we see here. There is yet another advantage to till-based soils, however, because much more particle surface is exposed to water in tills than in sand. Certain nutrients needed for the growth of plants are consequently dissolved from the soil particles and made available to plant roots much faster in tills. As a result, plants normally grow better in tills and that is why till soils are said to be "richer" or more "fertile" than sandy soils.

Who would have thought that a glacier last here 10,000 years ago would still be affecting the growth of the forest today?

Post 4 Look at All the Vacuum Cleaners!



Calcium and other nutrients are "vacuumed up" by vegetation. (Figures are kilograms of calcium per hectare of forest per year)

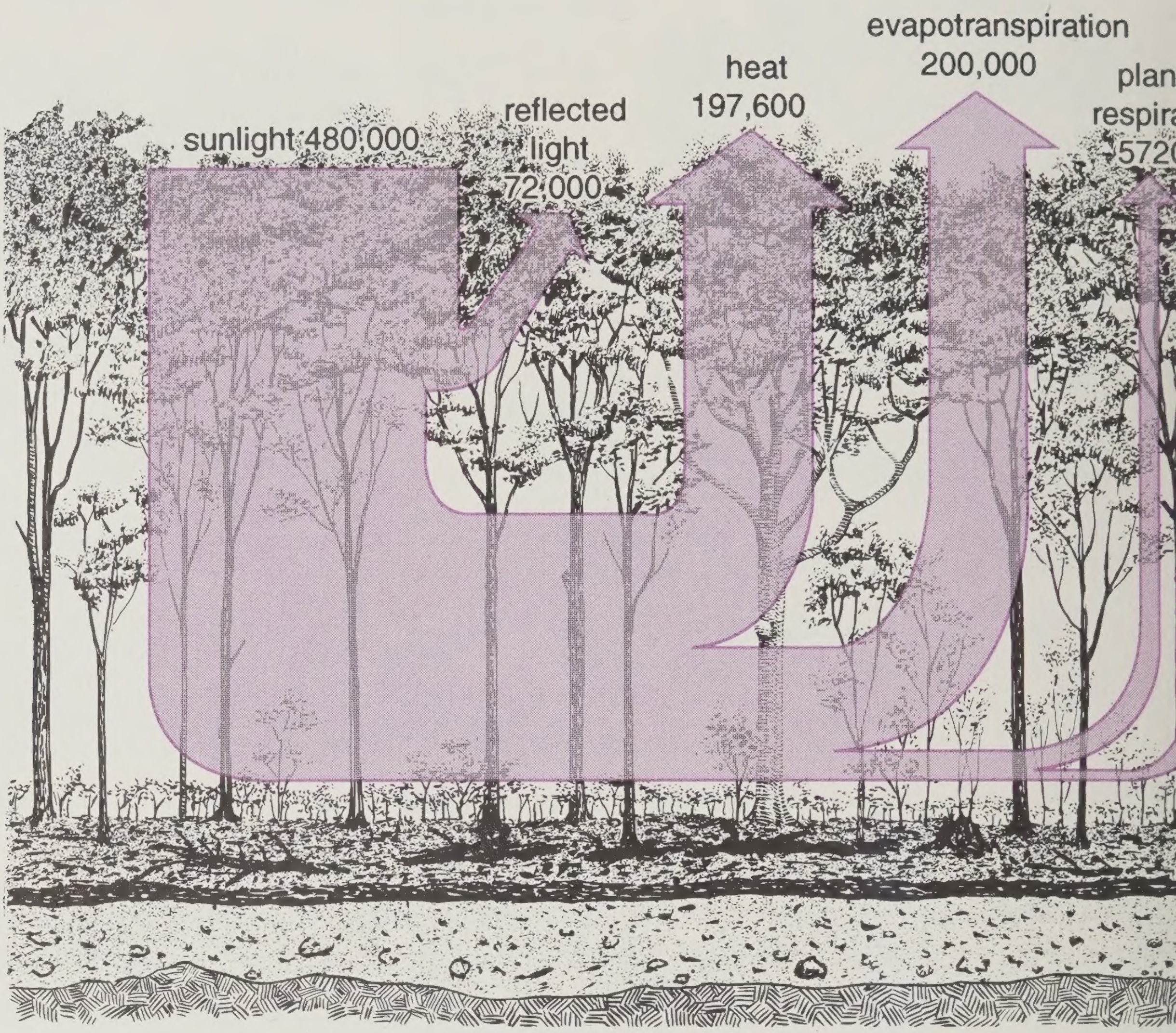
At the last post we said that the till soils left by the last glacier were "richer" than sandy soils because they yield their nutrients to plants more quickly. By "nutrients", we mean certain specialty substances needed by trees, humans and all other animals for proper growth. Nitrogen which we need to make proteins is one example of a nutrient, and calcium which plants use to strengthen their cell walls and we use to make teeth and bones is another. We animals get our nutrients by eating other animals or plants, but plants themselves are usually limited to absorbing their needed nutrients from the soil through their roots.

That's all very well but even in comparatively rich, till-based soil, as at this post, nutrients are liberated from the soil particles with excruciating slowness. Not only that, some of the released nutrients must inevitably be washed downstream by runoff and lost from the forest forever. Under these circumstances, you might expect that plants would have evolved extremely high efficiency in sucking up any nutrients that do become available in the soil.

This is dramatically borne out by our illustration for calcium, one typical nutrient in a hardwood forest. About 12 kg of calcium are lost downstream every year from every hectare of forest (about 10 pounds per acre) but this loss is largely made up by calcium contained in dust, rain, and snow falling on the forest and by new supplies being transformed into a state that plants can use by the dissolving of rock and soil particles.

Even more impressive is the fact that 49 kg of calcium per hectare per year are taken up by living trees and other plants — over four times the amount that is lost downstream. To be sure, the calcium absorbed by living plants is matched by the amount contained in the plant tissue that dies every year, but this only underlines how effective plants are in sucking up any nutrients that become available and then recycling them within the forest ecosystem. Look around. You are surrounded by super efficient nutrient vacuum cleaners. They have succeeded in spite of the soil's fundamental stinginess.

Post 5 Where It's Really At

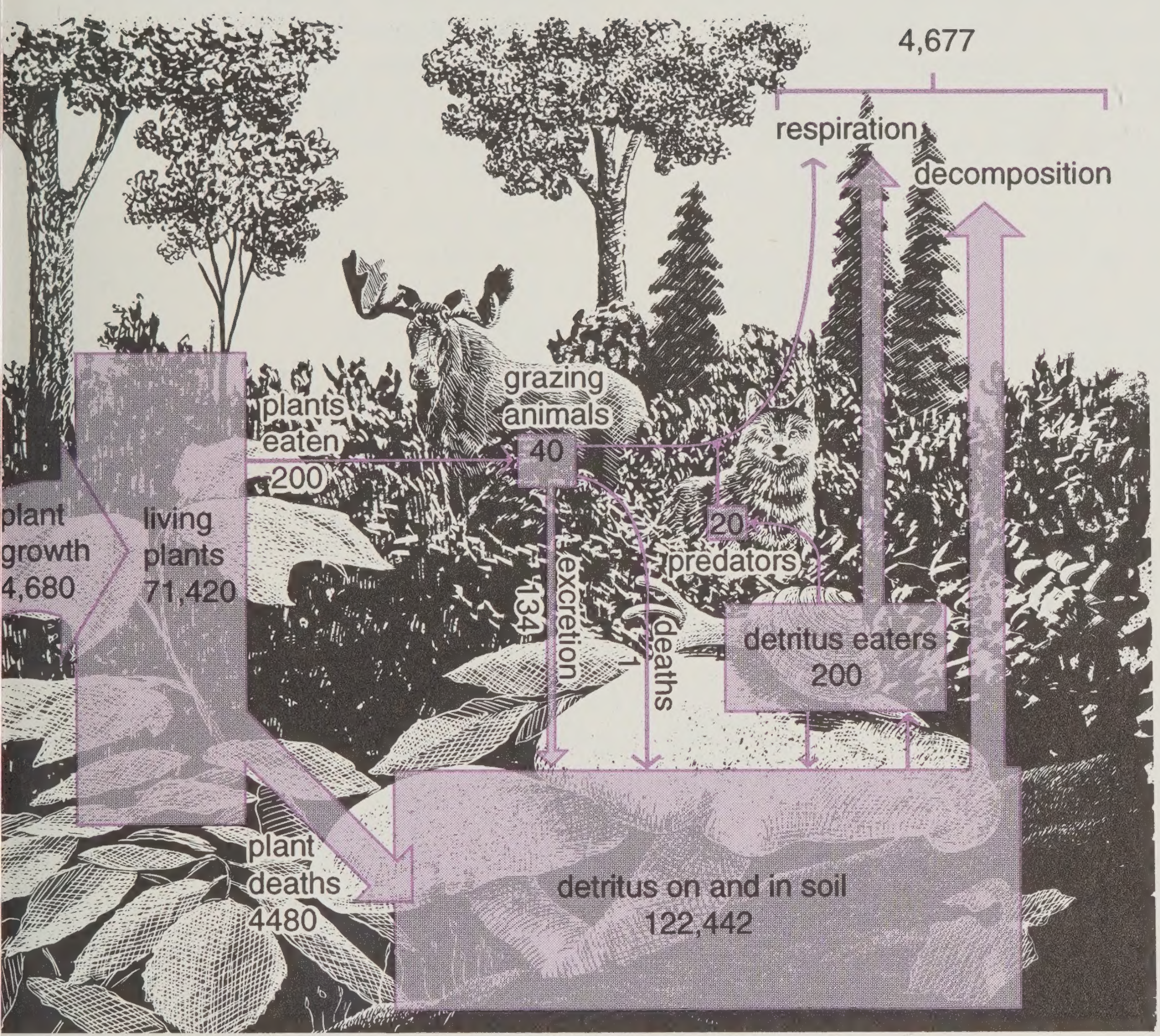


It is fashionable nowadays to talk about the importance of ecosystems. Still, for all the lip service paid to the concept, most people remain far more interested in just one particular part of such systems (namely wild animals) than they are in all the other parts. For example, most people would probably dismiss a forest as "lifeless" if it were somehow to be deprived of its warblers and deer, its owls and beetles, its toads or grouse.

It may be instructive, then, to examine the picture here of how energy flows through an Algonquin ecosystem like the hardwood forest you are standing in.

The arrows represent, and their widths are proportional to, the amounts of energy flowing through the ecosystem in just one square metre of forest in the four months between mid-May and mid-September. The boxes show how much energy is contained within the various components of the system at a particular moment (chosen somewhere near mid-summer when plant and animal life are at their maximum). The figures also show the amount of energy, in kilocalories per square metre, flowing through the system or contained in its parts.

There are many interesting details contained in such a picture, but a few of them deserve special comment. To begin with, a tremendous amount of energy from the sun lands on each square metre of forest every summer but most of what isn't immediately reflected back up into the sky, goes into simple warming of the soil and vegetation or the "evapotranspiration" of water from leaves in the forest. (By this we mean the energy-demanding process of sucking water from the soil up through roots,



Energy flow through the forest. (Figures are kilocalories per square metre, per year)

trunks and branches to leaves, where some of it is lost by evaporation out into the air).

The real point is that only about 2% of the energy falling on each square metre is actually captured by the trees and other green plants and used to make the forest ecosystem operate. In fact, the captured energy is such a tiny fraction of the original sunlight that we have had to greatly enlarge the plant production tube at the bracket so that we can see how it gets divided up more finely farther down the system. Right away, for example, slightly more than half of the captured energy is used by the plants just to power their chemical life support systems — leaving only about 1% of the original energy to go into the actual growth of new plant tissues.

At a given moment, the living plants in the forest contain a large amount of energy accumulated over their many years of growth. In our illustration the amount shown is about 70,000 kilocalories per square metre, of which about 12,000 is contained in roots underground. Of course, plants must eventually die and, if the forest has reached maturity (meaning that they are no longer putting on any net growth), the amount of plant tissue that dies each year will be the same as the amount grown.

The leaves that fall each autumn, the old branches that break off, and the odd tree that finally dies all get added to the forest's pool of detritus or dead plant matter. Surprisingly, the amount of energy contained in this pool is far greater than that contained within living plants. Detritus is therefore a much bigger part of the hardwood forest

ecosystem than are all the trees, shrubs, and wildflowers put together.

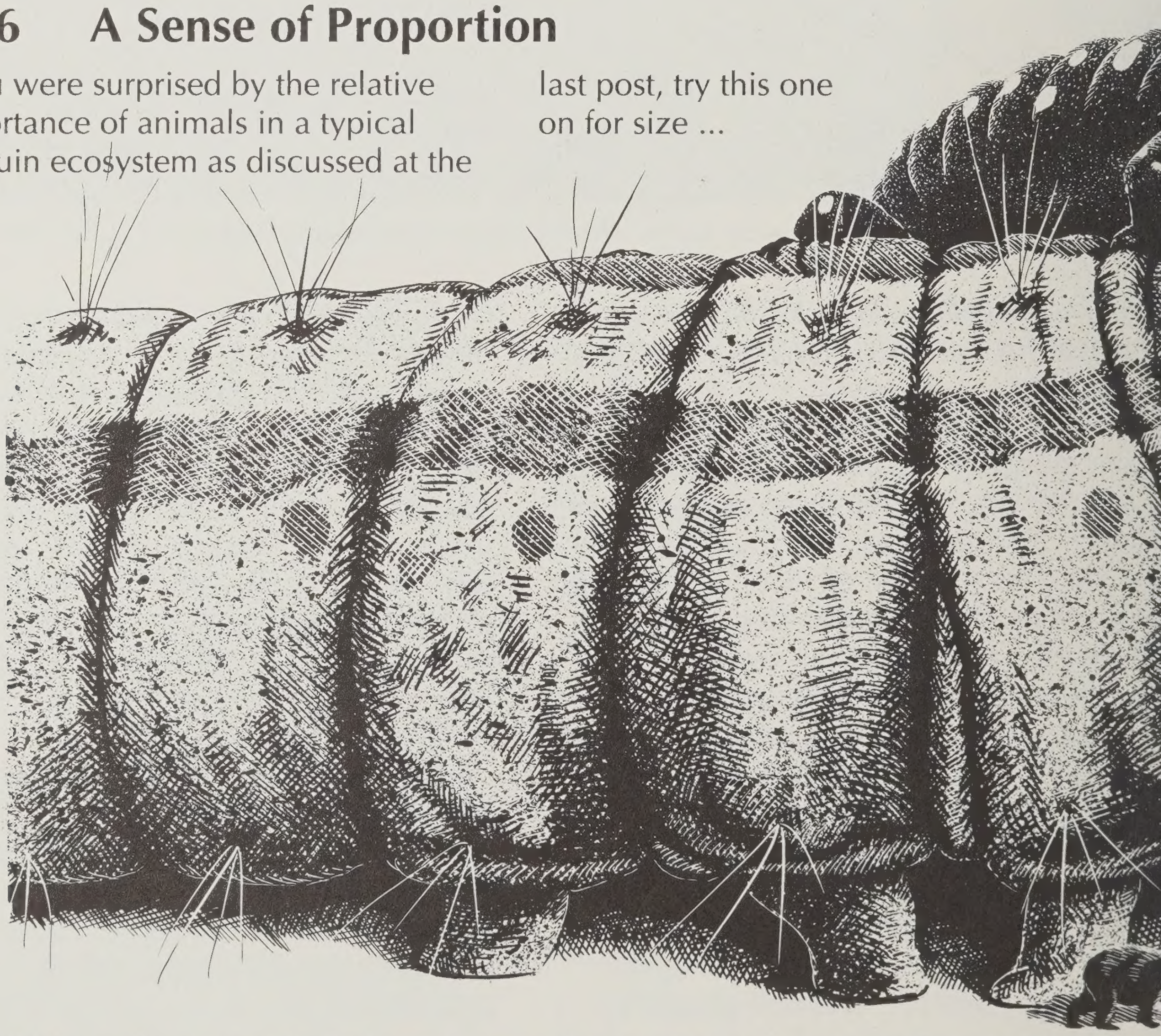
Among other things, this means that there are major opportunities in a hardwood forest for detritus eaters — things like bacteria, fungi, millipedes, and certain insect larvae. By contrast, animals like deer, mice or chipmunks that eat the leaves, berries or seeds of living plants have a smaller food base and are therefore less important. Predatory animals like shrews, salamanders or foxes, even those that can prey on both detritus-eaters and eaters of living plants, are even rarer.

But most astonishing of all, as you will now have seen from the diagram, is that all bacteria, fungi and animals in the forest amount to only an embarrassingly miniscule fraction of the system's total energy. Even more bruising to our collective animal kingdom ego is the realization that the particular animals we tend to find the most interesting — the animals and birds — are almost totally irrelevant. For example, bacteria and fungi don't contain much of the total system's energy either but they, at least, are required for the system to operate. If detritus weren't broken down by fungi and bacteria, the forest would quickly get clogged with dead leaves, trunks and branches. But birds and mammals? Who needs them? Would the system grind to a halt if there were no deer, or chipmunks, or salamanders or Blue Jays? Not for a minute — their absence would only mean that more leaves, seeds and insects would die and be broken down by fungi and bacteria than is the case now.

It takes a little getting used to but, in a real ecosystem like the one you are standing in, animals aren't very important. Sun and plants (especially dead ones) are where it's really at.

Post 6 A Sense of Proportion

If you were surprised by the relative unimportance of animals in a typical Algonquin ecosystem as discussed at the last post, try this one on for size ...

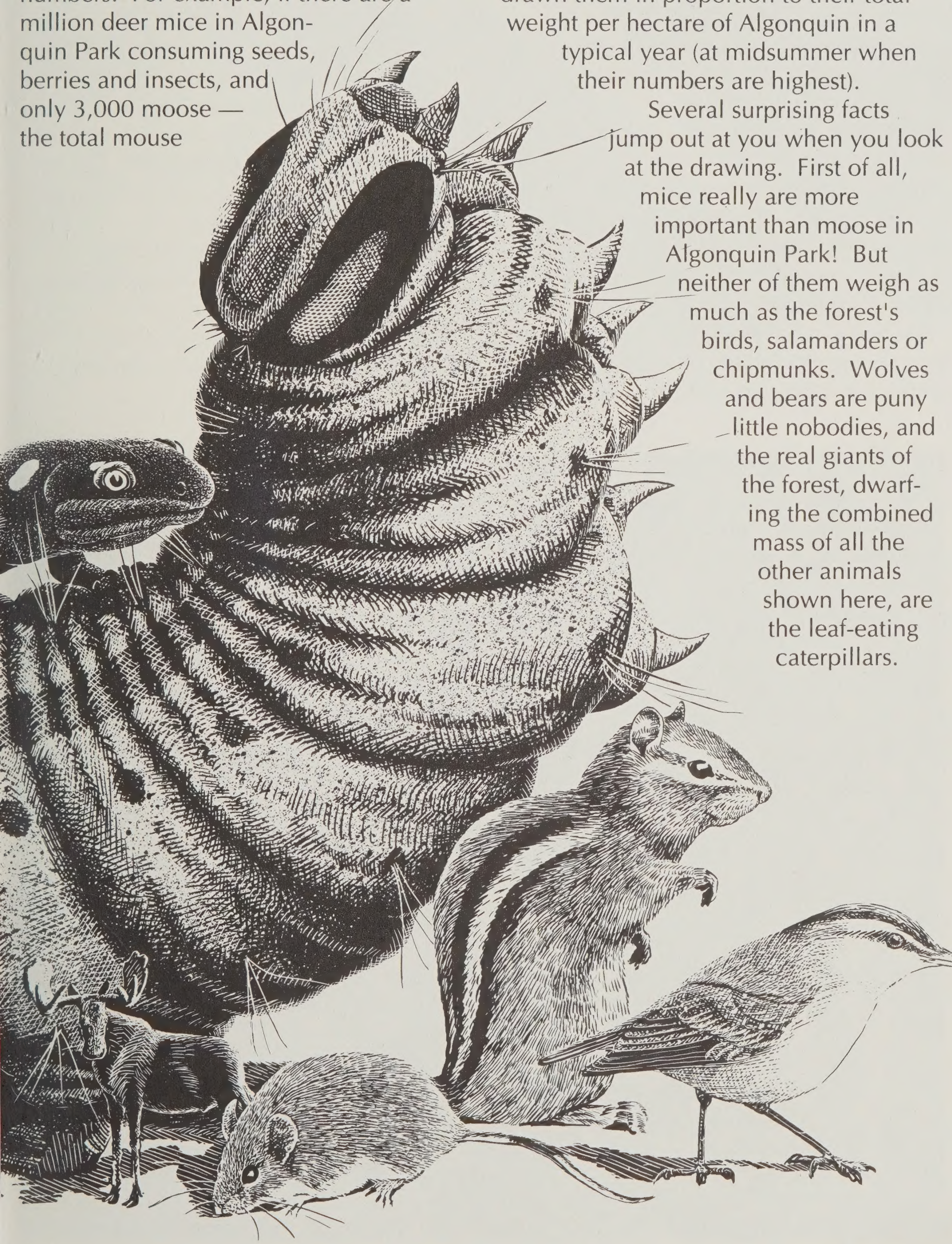


A few well-known Algonquin animals drawn in proportion to their total weight per hectare of forest at midsummer.

We are all impressed by bigness. As a result we pay far more attention to large animals like moose or bears than we do to small ones like mice or insects. This is fine so long as we realize that the real importance or influence of a particular kind of animal depends not only on the size of its individuals but also on its numbers. For example, if there are a million deer mice in Algonquin Park consuming seeds, berries and insects, and only 3,000 moose — the total mouse population will weigh more and be more important to the Algonquin ecosystem than the moose population, even if individual mice are much smaller than individual moose.

To help gain a truer picture of the relative importance of a selection of familiar Algonquin animals, we have drawn them in proportion to their total weight per hectare of Algonquin in a typical year (at midsummer when their numbers are highest).

Several surprising facts jump out at you when you look at the drawing. First of all, mice really are more important than moose in Algonquin Park! But neither of them weigh as much as the forest's birds, salamanders or chipmunks. Wolves and bears are puny little nobodies, and the real giants of the forest, dwarfing the combined mass of all the other animals shown here, are the leaf-eating caterpillars.



Post 7 What Gave Us Cathedral Grove?

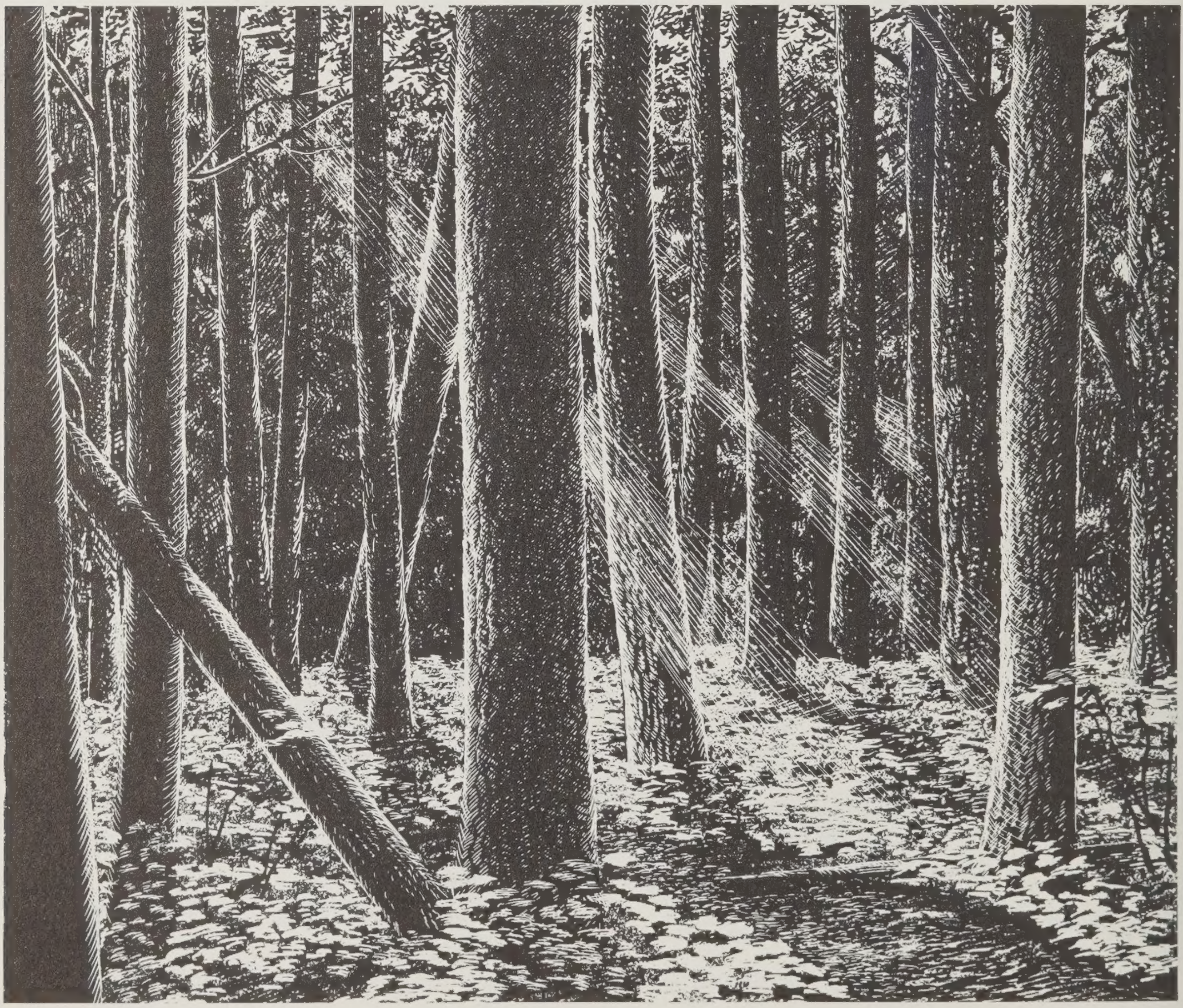
You have now entered one of the largest and most impressive stands of Eastern Hemlock to be found in the Parkway Corridor of Algonquin. Such places are pleasing to look at but they are also important as havens for different kinds of wildlife, ranging from two species of warblers that nest up in the canopy, to deer that often find winter shelter beneath the snow-catching branches.

The interesting question about a stand like this one is the very simple one of "why is it here?" Is it because the soil is different here? Could a fire have killed the previous forest a couple of centuries ago and somehow favoured the establishment of hemlock?

We may never know the exact answer but we can offer a few observations. One is that the soil here is till, very similar in fact to the soil that supported the big maple stands we saw earlier on the trail. The key difference may be that the soil in this hemlock stand is moister, probably because it is shallower and because the underlying bedrock is configured in such a way to prevent rain water from easily escaping. It may help also that the hill behind us blocks off the sun for part of the day and keeps the site a little cooler and moister than it would be otherwise.

It is probably also safe to say that deer were probably rare or altogether absent when this stand got established. Deer benefit greatly from large hemlocks but (unlike moose) they will selectively devour any young hemlock growth they come across.

The origins of this "cathedral grove" are subtle even if the results are dramatic.



Post 8 Repeating the Question

In a bog tree roots must extract nutrients from semi-decayed plant remains called peat.

Here at the north end of Davies' Bog we have arrived in yet another kind of forest — this time it's Black Spruce and Tamarack. Once again we can ask ourselves what is so different about this location that causes it to support such strikingly different trees.

Back at posts 2 and 3, we saw two major soil types and the different forests they supported. They were the tills deposited by glacial ice, and the outwash sands deposited by rivers of meltwater. Here we have an example of Algonquin's third and last major soil type, namely peat. Peat is quite different from the other soils because it all formed after the glacier left and because it has almost no mineral component.

Over the centuries, a mat of floating sedges and mosses grew here, out over what was once open water. When they died, the plants sank down but only partly decomposed in the oxygen-poor, acidic water. The accumulating layers of semi-decayed vegetation (peat) filled in the shallow areas of the pond and eventually became solid enough to support the growth of trees.

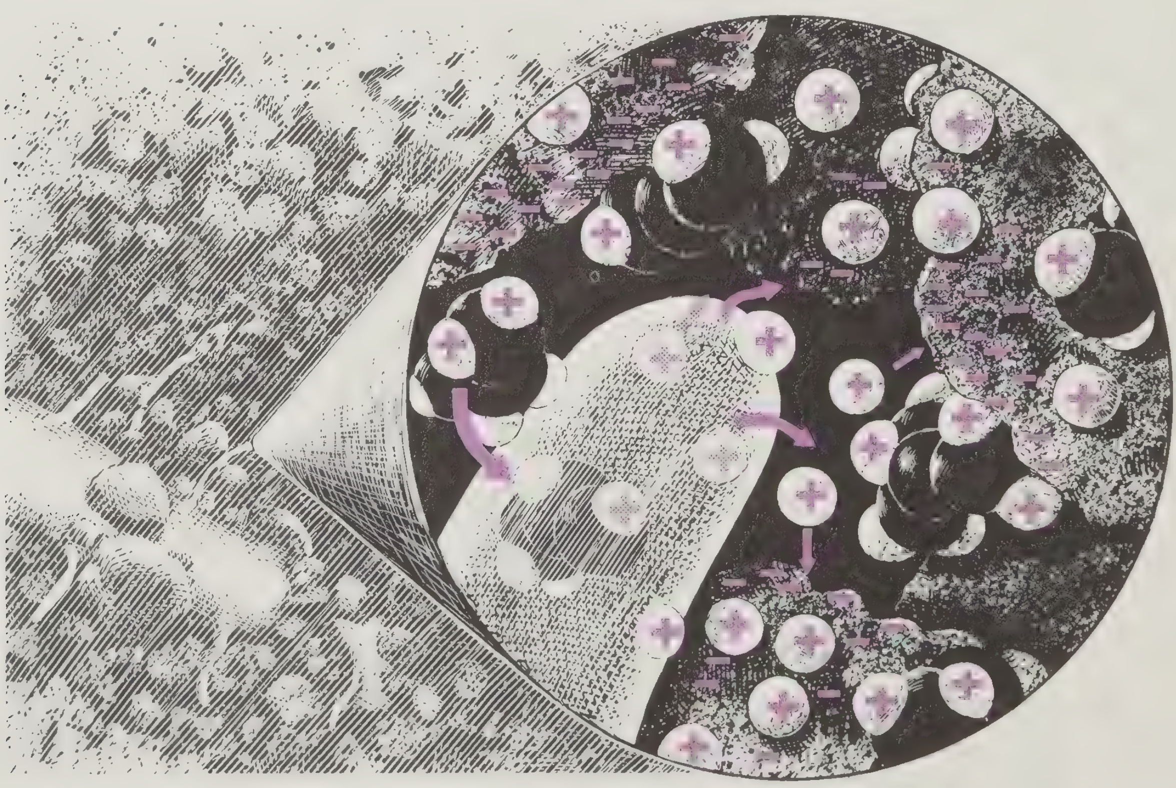
If you once again imagine yourself as a tree putting down roots, this time into the peat, you may appreciate what a very different physical and chemical environment this soil is from the two we saw earlier. For one thing, because it contains no particles of ground-up rock like till and sand, peat is a very poor source of nutrients. Also, since the peat is already saturated with water, no new water can circulate into it bringing oxygen or nutrients from outside. Finally, because it is overtopped by a thick, insulating layer of living moss, the peat tends to remain very cold long into the growing season. Under such circumstances, we should not be surprised that the trees that grow on peat soils are different from those that grow on the other soil types. If anything, we should be impressed by the fact that there are any at all.

Post 9 Eating With Electricity

Eating with electricity may seem a pretty weird concept, but in a way that's what the trees around you are doing. We have referred several times already on the trail to the need plants have for nutrients — things like nitrogen, magnesium, phosphorus, potassium and calcium that they (and we) must have for proper health and growth. What we have neglected to mention so far is how roots actually manage to gather up these nutrients. After all, it's not as if their roots could somehow grab and swallow them.

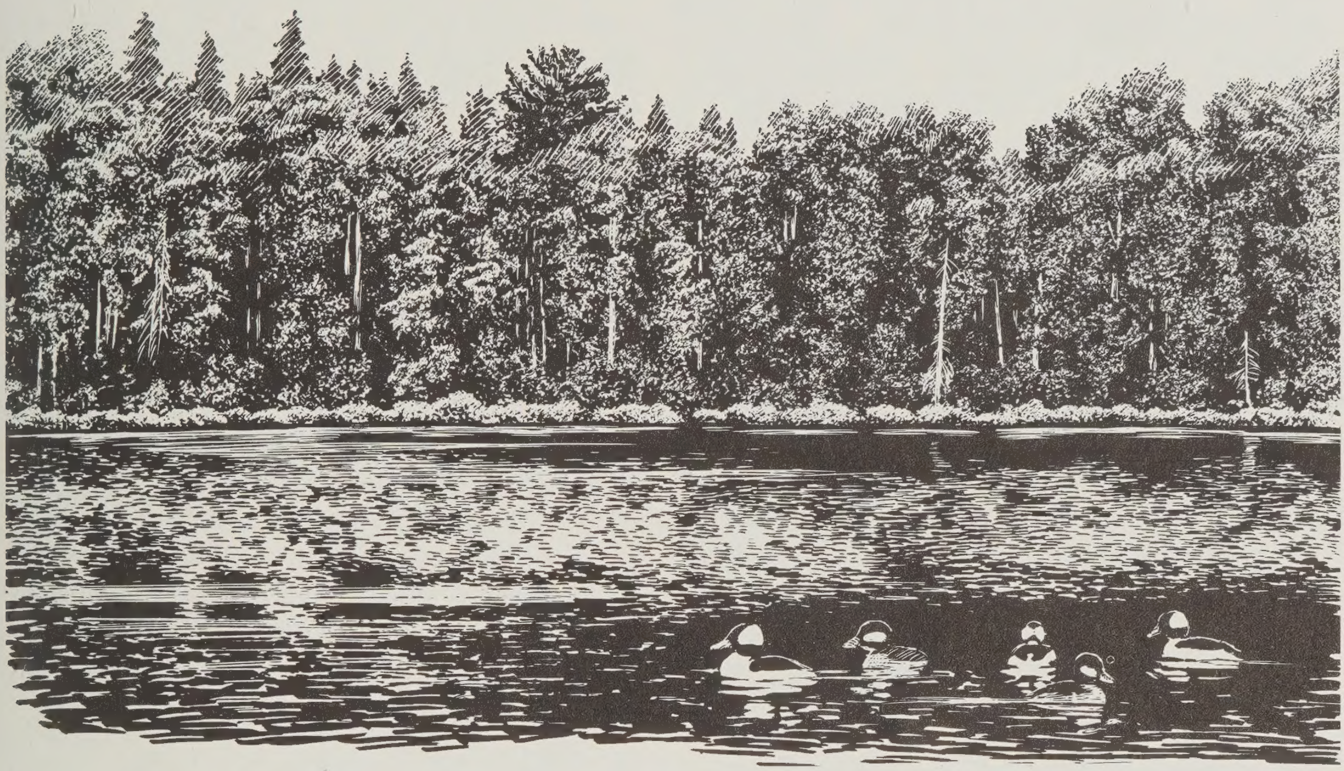
What happens instead is this. It so happens that all the nutrients used by trees occur in the soil in the form of positively charged particles or "ions". The positive nutrient ions are usually held on the (negatively charged) surfaces of soil particles so the problem faced by "hungry" trees is one of somehow liberating the ions so they can then be taken up by their roots. Trees accomplish this by producing positively charged hydrogen ions on their root surfaces. In the general course of floating around in the microscopic soil-root environment, some of these positive hydrogen ions displace positive nutrient ions from soil particles. The nutrients are then free to float away from the soil particles — and very often they will encounter, and be absorbed by, nearby root hairs.

Thus, trees really do use electricity to acquire their nutrients. We could also have said that they use acid, because hydrogen ions are the "active ingredient" of all acids and this brings us to an important point. Tree roots are not the only source of hydrogen ions in the soils of Algonquin these days. A lot more fall out of the sky in the form of acid rain. Unfortunately, hydrogen ions that originate from factory emissions hundreds of kilometres away are just as capable of displacing nutrient ions from soil particles as are locally produced tree-root hydrogen ions. The difference is that the surplus nutrient ions liberated from the soil by the additional hydrogen ions coming from the acid rain have nowhere to go but to be flushed downstream, out of the soil. Indeed, the more acid rain that falls on an area the more nutrients are lost in its runoff. This continuing loss of soil fertility is why many experts are worried about the long term effects of acid rain.



Root hairs "eat" by producing positive hydrogen ions (+) that change places with positive nutrient ions attached to soil particles.

Post 10 Looks Sweet, Tastes Sour



Buffleheads on Bat Lake.

Pretty little Bat Lake which now lies before you doesn't look very different from the thousand or so other lakes in Algonquin. Nevertheless it is. Bat Lake is one of 15 in the Park known to be acidified. The water here has a pH of 4.1, meaning that it is about 25 times more acidic than such familiar Park lakes as Opeongo, Two Rivers or Smoke (which generally have summertime surface pH's of around 6.5). Bat Lake has no capability at all to neutralize the acid rain that now falls or drains into it, and it cannot support fish. This sounds pretty grim and, in view of all the publicity and dire predictions made about acid rain over the last decade or so, you might reasonably assume that Bat Lake is a tragic early victim of "the acidification calamity which threatens to overtake most of our lakes in the coming years". The chances are, however, that you would be at best only partly right. For one thing, there is almost no evidence, since the late 1970's when the problem began to be studied seriously, of increasing acidity in the presently "healthy" lakes of Algonquin.

When it comes to now acidic lakes, like this one, things are a bit more complicated. Before very recently, it never occurred to anyone that lakes could be acidified and so people hardly ever measured their pH. Fortunately, scientists have now learned that different species of algae are closely identified with narrow ranges of pH and other water chemistry conditions. By examining the remains of algae in lake bottom sediments, it is now often possible to reconstruct the past pH history of a lake — extending back hundreds of years. On this basis, Bat Lake has "always" been naturally acidic although there is also evidence that the recent arrival of man-caused acid rain may have increased the acidity somewhat. Be this as it may, the acidic waters of Bat Lake are nevertheless home to an impressive assemblage of living things as we shall see at the next stop.

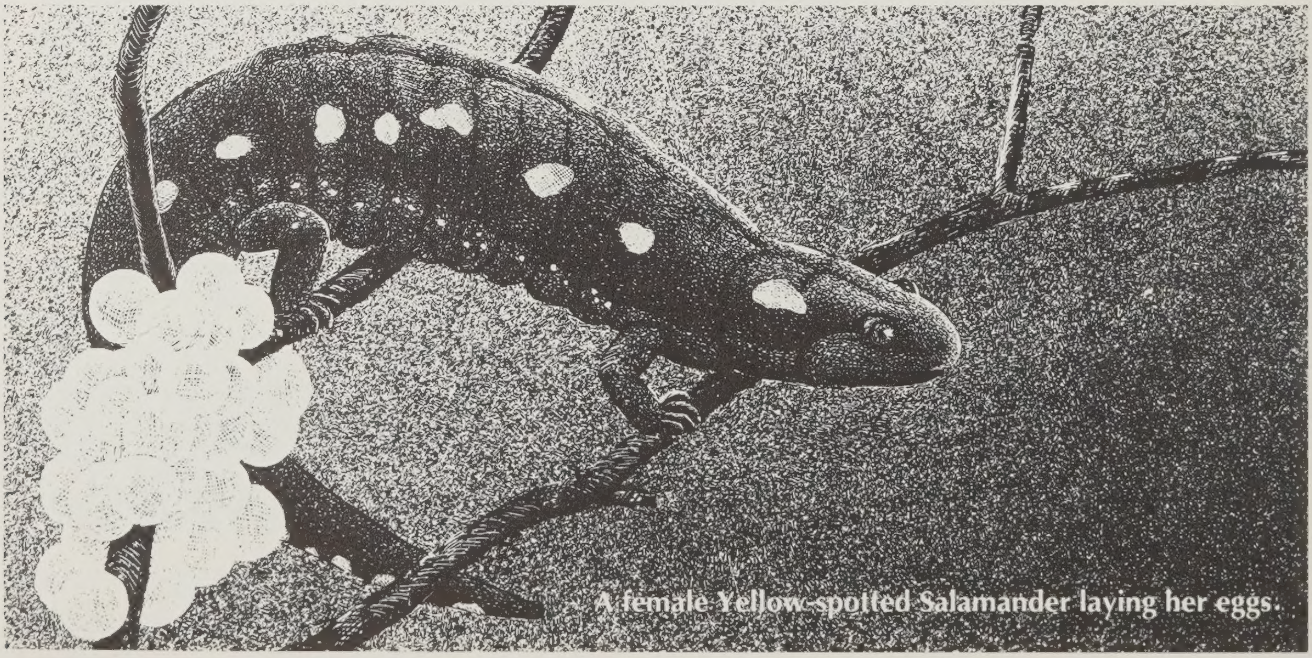
Post 11 Dragons in the Acid Vat

Mention of an "acidified lake" conjures up visions of a sinister and sterile wasteland. The fact is, though, that acidified Bat Lake is swarming with life. There are not only the algae mentioned earlier but at least five species of tiny crustaceans that graze upon them. Preying in turn on the crustaceans are thousands if not millions of ghost midge larvae, almost transparent little invertebrates that often reach densities of 10 or 15 per litre. They are hard to see in the daytime but at night, when you shine a flashlight into Bat Lake, the water seems to be a teeming "soup" of small but still very visible organisms.

It is true that Bat Lake has no fish, but this very absence permits other more unusual forms of life to flourish here. The huge numbers of ghost midge larvae support large numbers of backswimmers and dytiscids (both predatory beetles), and in the spring and fall Bat Lake is one of the best places we know of in the Park to see migrating Buffleheads, a beautiful little northern duck that specializes in aquatic invertebrates.

The most spectacular of all visitors to Bat Lake, however, are the Yellow-spotted Salamanders. These exotic-looking, miniature dragons spend most of the year up on land, hidden underground or under surface debris. In early spring they return to the water to breed and lay their eggs. Most of the time they are forced to use temporary meltwater pools in the forest because, in lakes, both the adults and the salamander tadpoles that hatch from the eggs would be annihilated by fish. Here in Bat Lake, however, there are no fish nor any danger of the water disappearing before the tadpoles have had time to transform into air-breathing adults in late summer. Bat Lake is therefore a salamander paradise and it may be reasonably suggested that such unusual, naturally acidic and fishless waterbodies are far more effective in populating the forest with salamanders than are the more numerous but smaller spring meltwater pools that often dry up too soon anyway. You will remember from back at Post 6 that salamanders are more than twice as important as moose or mice in Algonquin Park (judging by their total weight), so the importance of places like Bat Lake can hardly be exaggerated.

You probably won't see any Yellow-spotted Salamanders at Bat Lake because the tadpoles are hard to see down in the water, and the adults all leave after the early May breeding period. Take it from us, however, that Algonquin Park offers few more spectacular wildlife experiences than that to be had by floating around Bat Lake with a flashlight on a cool night in May. The place is acidified but it certainly isn't dead!



A female Yellow-spotted Salamander laying her eggs.

Post 12 Credit Where Credit Is Due

You are now crossing what is called an "alder-swale" — a wide, moist creek bottom, crowded with many individuals of a rather unprepossessing little tree called the Speckled Alder. Alders are reasonably well known for their ability to colonize lowlands like this that are flooded for a while each spring, but other than that, they rarely command much attention.

Alders nevertheless have a special "hidden talent" not possessed by other trees and which should be recognized. We said earlier that trees get their nutrients through their roots from the soil. Alders are a major exception when it comes to one of the most important of all nutrients — nitrogen. Alders have small golden nodules on their roots housing bacteria that have the ability to extract nitrogen from the air and make it available to the alder. All other Algonquin trees are restricted to getting their nitrogen from rather scarce soil compounds. The alder's unique ability gives it a tremendous competitive advantage and helps explain its notoriously rapid growth even in sterile sandy soils.

The alder's ability to tap into the atmospheric nitrogen supply has other important consequences as well. Alder leaves are four times richer in nitrogen than the leaves of other plants. When they fall into our creeks and rivers each autumn, as billions upon billions of them do, those drab, seemingly inconsequential alder leaves bring a vitally important contribution of nitrogen that will make itself felt throughout the entire aquatic food chain. Insect larvae graze upon the nutritious leaves and they in turn support larger, predatory insects and minnows which form the food base of Algonquin's prized Brook Trout. The same sort of thing holds true when alder leaves — or the dead trees themselves — fall on land. They fertilize the soil and make subsequent plant and animal growth far more luxurious than it would otherwise be.

Algonquin Park's ecosystems are full of hidden surprises like the alder — important actors that may not seem spectacular at first, but which really do play major roles.

Bacteria living in alder root nodules can extract nitrogen from the air.

May we suggest that you remember this the next time you cross an alder swale? You should, after all, give credit where credit is due. And, since this tree is so often ignored or despised, it might even do swale things for the Park's alder ego.

Post 13

We hope you have enjoyed your walk around the Bat Lake Trail and gaining some insights into some of the sensitive inner workings of Algonquin Park forests.

If you do not intend to take the trail guide home with you, please place it in this box so that others may use it later.

If you wish to keep the guide please pay at the entrance sign, if you have not already done so. Thank you.

Other Algonquin Trails

This is just one of 12 interpretive trails maintained in the Parkway Corridor of Algonquin Provincial Park. Each is designed to introduce you to some specific aspect of the Park and each has a guide similar to this one. The 11 other trails are listed below (distances are from the West Gate).

WHISKEY RAPIDS TRAIL (AT KM 7.2) This trail is a 2.1 km loop leading along the Oxtongue River to scenic Whiskey Rapids. The trail guide discusses the ecology and history of an Algonquin river.

HARDWOOD LOOKOUT TRAIL (AT KM 13.8) This 0.8 km walk introduces you to the ecology of a typical Algonquin hardwood forest and culminates in a fine view of Smoke Lake and the surrounding maple hills.

MIZZY LAKE TRAIL (AT KM 15.4) This 11 km trail requires an early start and a full day to do properly. It visits nine ponds and small lakes and affords some of the best chances to see wildlife in the Parkway Corridor.

PECK LAKE TRAIL (AT KM 19.2) The Peck Lake Trail is 1.9 km long and goes completely around the shoreline of Peck Lake before returning you to the parking lot. The trail guide explores the ecology of a typical Algonquin lake.

TRACK AND TOWER TRAIL (AT KM 25) A 7.7 km loop featuring a spectacular lookout over Cache Lake, this trail introduces you to some fascinating history. A 5.5 km optional side trip follows an abandoned railway to Mew Lake.

HEMLOCK BLUFF TRAIL (AT KM 27.2) This 3.5 km loop leads through mixed forest to an impressive view of Jack Lake. The guide presents results of research in Algonquin.

TWO RIVERS TRAIL (AT KM 31) This 2.1 km loop includes an easy ascent to a pine-clad cliff and introduces the importance of change in the natural forests of Algonquin.

LOOKOUT TRAIL (AT KM 39.7) This 1.9 km loop is a fairly steep and rugged trail which rewards the hiker with a magnificent view of several hundred square kilometres of Algonquin. The trail guide discusses the geology of the Park.

BOOTH'S ROCK TRAIL (8 KM SOUTH FROM KM 40.3) This 5.1 km loop visits two lakes and a spectacular lookout, returning via an abandoned railroad while the guide discusses man's impact on the Park.

SPRUCE BOG BOARDWALK (AT KM 42.5) Several boardwalk sections in this 1.5 km loop give you an excellent close-up look of two typical northern spruce bogs. Their ecology is discussed in the guide.

BEAVER POND TRAIL (AT KM 45.2) A 2.0 km loop yields excellent views of two beaver ponds while the guide provides an introduction to Algonquin's fascinating beaver pond ecology.

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